Accuracy of Hysteroscopic Diagnosis of Endometrial Polyps

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Abstract

Objective : To evaluate the diagnostic accuracy of endometrial polyps by hysteroscopy.

Material and Method : One hundred and sixty five women undergoing diagnostic hysteroscopy between January 1996 and December 1998 at the Gynecologic Endoscopy Unit, King Chulalongkorn Memorial Hospital were recruited in this study. The hysteroscopic diagnosis was compared with the histopathology by endometrial curettages performed after hysteroscopy.

Results : Endometrial polyps were diagnosed by hysteroscopy in 54 patients (32.73%). When compared to tissue pathology, we found an accuracy of 81.21 per cent, sensitivity of 92.59 per cent, specificity of 78.98 per cent, positive predictive value of 46.29 per cent, negative predictive value of 98.19 per cent, false positive of 17.57 per cent and false negative of 1.21 per cent.

Conclusion : For endometrial polyps, diagnostic hysteroscopy yields a high accuracy but low positive predictive value. Therefore, endometrial biopsy is necessary to confirm diagnosis of endometrial polyps by hysteroscopy.

Key word : Diagnostic Hysteroscopy, Endometrial Polyps, Accuracy

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Hysteroscopy is an important means of diagnosing intrauterine pathologic disorders in patients with various gynecologic complaints[1-3]. It can easily be performed as an outpatient procedure with local or no anesthetic requirement[4]. There is a report of high accuracy in the diagnosis

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of endometrial polyps by hysteroscopy[5]. Pathologists' experience is that not all such specimens submitted as endometrial polyps are truly endometrial polyps[6].

From this reason, we were interested in the accuracy of hysteroscopic diagnosis of endometrial polyps. We compared the hysteroscopic findings with the pathologic specimens obtained by dilatation and curettage, as a gold standard, to represent the true diagnosis.

MATERIAL AND METHOD

Between January 1996 and December 1998, 165 patients evaluated by hysteroscopy at the Gynecologic Endoscopy Unit, King Chulalongkorn Memorial Hospital were recruited in this study. All patients were suspected of having intrauterine pathology and planned for endometrial curettage. Hysteroscopy was timed in the proliferative phase of menstrual cycles, if possible, except for cases of abnormal vaginal bleeding. All patients gave informed consent.

The hysteroscopy was guided through the endocervical canal into the uterine cavity under visual control. Higar's dilator was used if the cervix required dilatation. Hysteroscopy was gently performed using a standard rigid 4-mm-telescope (Storz Endoscopy, Tuttlingen, Federal Republic of Germany) with a 30 degree fore-oblique lens and a 5-mm-diameter diagnostic sheath. Illumination was provided by a high intensity cold-light source *via* a fiber-optic lead. A single-clip endoscopic camera was attached to the eyepiece and the image was displayed on a monitor. The uterine cavity was generally distended with either carbon dioxide *via* electronic HAMOU hysteroflator adjusted to a flow rate of 45 ml/minute and a pressure not exceeding 100 mmHg or normal saline solution infused at a pressure of up to 150-250 mmHg. The procedure was carried out by two experienced operators from the Gynecologic Endoscopy Unit.

An examination was judged to be adequate if the endocervical canal, entire intrauterine cavity and both tubal ostia were visualized. Hysteroscopic diagnosis of endometrial polyps was based on the following criteria : polypoid structure, normal colour endometrium, soft touch feeling, and a small number of superficial vessels on panoramic view[7]. Findings were recorded on the hysteroscopic examination forms.

Table 1. Indications and diagnostic hysteroscopic findings

Indications	N	%	Hysteroscopic findings							
			Normal	Endometrial polyps	Endocervical polyps	Endometrial hyperplasia	Submucous myoma	Uterine synechiae	Others (eg.endometritis,etc)	Unsatisfied examination
Endometrial polyps	51	30.91	6	37	1	4	3	-	-	-
Abnormal uterine bleeding	29	17.57	16	7	-	-	5	-	-	1
Endometrial hyperplasia	6	3.64	1	2	-	1	1	-	1	-
Submucous myoma	10	6.06	2	-	-	2	6	-	-	-
Uterine synechiae	11	6.67	5	-	-	1	-	4	-	1
Infertility	50	30.30	19	5	-	-	7	8	9	2
Endocervical polyps	2	1.21	-	1	1	-	-	-	-	-
Serometra	6	3.64	2	2	-	-	-	-	-	2
Total	165	100.00	51	54	2	8	22	12	10	6

Table 2. Comparative findings in diagnostic hysteroscopy and pathological examination.

Hysteroscopic findings	N	%	Pathologic examinations				
			Normal	Endometrial polyps	Endocervical polyps	Submucous myoma	Endometritis
Normal	51	30.91	50	1	-	-	-
Endometrial polyps	54	32.73	28	25	1	-	-
Endocervical polyps	2	1.21	-	-	1	-	1
Endometrial hyperplasia	8	4.85	7	1	-	-	-
Submucous myoma	22	13.33	22	-	-	-	-
Uterine synechiae	12	7.27	12	-	-	-	-
Others (eg.endometritis,etc)	10	6.06	8	-	-	1	1
Unsatisfied examination	6	3.64	6	-	-	-	-
Total	165	100.00	133	27	2	1	2

Table 3. Diagnostic accuracy of hysteroscopy for endometrial polyp.

Hysteroscopic diagnosis	Pathologic diagnosis		Total
	Polyp	Non-polyp	
Polyp	25	29	54
Non-polyp	2 [a]	109	111
Total	27	138	165

	%
Accuracy	81.21 (134/165)
Sensitivity	92.59 (25/27)
Specificity	78.98 (109/138)
Predicitive valve	
Positive	46.29 (25/54)
Negative	98.19 (109/111)
False positive	17.57 (29/165)
False negative	1.21 (2/165)

[a] one case was hysteroscopically diagnosed as having normal endometrium, the other was endometrial hyperplasia.

Subsequently, endometrial curettage was done for histologic diagnosis. The pathology reports were reviewed to compare the results of hysteroscopic examination with histologic findings for accuracy of hysteroscopy. The pathologic specimens revealing proliferative, secretory, atrophic endometrium were categorized as normal.

RESULTS

One hundred and sixty five women were included in this study. The mean age was 36.08± 5.41 years (range 21 to 54). Sixty-six patients (40%) required cervical dilatation. The most common indication for the procedure was suspicion of endometrial polyps in 51 patients (30.91%) followed by infertility in 50 patients (30.30%) (Table 1). When comparing the hysteroscopic findings with the final pathologic diagnosis, 54 patients diagnosed by hysteroscopy had correctly confirmed endometrial polyps in 25 patients (46.29%). Of those 54 patients, 28 patients (51.85%) did not have polyps on final pathology and one case of endocervical polyps was misinterpreted as endometrial polyps. Only 2 patients with endometrial polyps were missed by hysteroscopy, one case was diagnosed as endometrial hyperplasia and the other as normal endometrium (Table 2). Concerning endometrial polyps, the sensitivity and specificity of hysteroscopy in the diagnosis of endometrial polyps were 92.59 per

cent and 78.98 per cent respectively. The predictive positive value and predictive negative value were 46.29 per cent and 98.19 per cent respectively (Table 3).

DISCUSSION

Hysteroscopy has become a common gynecological diagnostic tool. It is a simple, quick and safe technique for assessment of structural abnormality of the uterine cavity. In this study, endometrial polyps accounted for 32.73 per cent of all patients requiring hysteroscopic diagnosis. Compared with histologic examination, the sensitivity of hysteroscopy in the diagnosis of endometrial polyps was high (92.59%), but specitivity was low (78.98%). This implied that hysteroscopy was a good screening tool, but not a confirmative tool. We found only 2 cases that were missed by hysteroscopy. The false positive of 29 cases (17.57%) can be explained by the polypoid-like pattern of late proliferative endometrium, the secretory phase endometrium, and the polypoid effect of Progestin on the endometrium. From our study, there was a higher sensitivity when compared with previous reports[8,9]. There was a report of 3 malignant endometrial polyps in 151 cases of hysteroscopically diagnosed benign endometrial polyps[10]. We found a high negative predictive value (98.19%) but low positive predictive value (46.29%). Therefore, we recommend endometrial biopsy in all cases of endometrial polyps by hysteroscopy to confirm the diagnosis. However, in case with negative findings (normal endometrium), it was unnecessary to perform curettage. Only one case of endometrial polyps was missed and interpreted as normal (another case was overdiagnosed as endometrial hyperplasia).

Hysteroscopy is an excellent tool for diagnosing endometrial contour irregularities. Many cases of polypoid-like endometrium may be misinterpreted as polyps on hysteroscopy. The combination of hysteroscopy and histology is important in these cases. Confirmation of histopathology is unnecessary in negative findings by hysteroscopy.

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ความแม่นยำในการวินิจฉัยติ่งเนื้อของเยื่อบุโพรงมดลูกด้วยกล้องส่องโพรงมดลูก

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วัตถุประสงค์ : เพื่อศึกษาถึงความแม่นยำในการวินิจฉัยติ่งเนื้อของเยื่อบุโพรงมดลูกด้วยกล้องส่องโพรงมดลูก

วัสดุและวิธีการ : ผู้ป่วยที่เข้ารับการรักษาด้วยกล้องส่องโพรงมดลูก จำนวน 165 ราย ระหว่างมกราคม 2539 ถึงธันวาคม 2541 ที่หน่วยส่องกล้องทางนรีเวช โรงพยาบาลจุฬาลงกรณ์ โดยนำผลจากการวินิจฉัยด้วยกล้องส่องโพรงมดลูกเปรียบเทียบกับผลทางพยาธิวิทยาซึ่งถือเป็น gold standard

ผลการศึกษา : พบว่ามีติ่งเนื้อของเยื่อบุโพรงมดลูกจากการตรวจด้วยกล้องส่องโพรงมดลูก 54 ราย (32.73%) ความแม่นยำเมื่อเปรียบเทียบกับผลทางพยาธิวิทยา พบว่า accuracy 81.21%, sensitivity 92.59%, specificity 78.98%, positive predictive value 46.29%, negative predictive value 98.19%, false positive 17.57% และ false negative 1.21%.

สรุป : การวินิจฉัยติ่งเนื้อของเยื่อบุโพรงมดลูกด้วยกล้องส่องโพรงมดลูกมี accuracy สูง แต่ positive predictive value ต่ำ ดังนั้นจึงจำเป็นต้องตัดชิ้นเนื้อส่งตรวจทางพยาธิทุกราย ที่วินิจฉัยติ่งเนื้อของเยื่อบุโพรงมดลูกด้วยกล้องส่องโพรง-มดลูก เพื่อเป็นการยืนยันในการวินิจฉัย

คำสำคัญ : การวินิจฉัยด้วยกล้องส่องโพรงมดลูก, ติ่งเนื้อของเยื่อบุโพรงมดลูก, ความแม่นยำ

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